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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,443

11/25/2003

Hubertus M.J.M. Boesten

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EXAMINER

ZHENG, JACKY X

ART UNIT

PAPER NUMBER

2625

NOTIFICATION DATE

DELIVERY MODE

07/17/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/720,443

Applicant(s)

BOESTEN ET AL.

Examiner

Jacky X. Zheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on November 25, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on November 25, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/25/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This is the initial office action based on the application filed on November 25, 2003.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on November 25, 2003 was filed on the mailing date of the application on November 25, 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. The abstract of the disclosure is objected to because a misspelling of the word "color" as "colour". Correction is required. See MPEP § 608.01(b).
6. The disclosure is objected to because of the following informalities: misspellings of the words:
 - a. "color" as "colour", such as in Line 3 of Paragraph [0002]. Applicant is reminded for checking the remaining of the disclosure for such informalities.
 - b. "casu" in Line 1 of Paragraphs [0046], [0050], [0052] and Applicant is reminded for checking the remaining of the disclosure for such informalities.Appropriate correction is required.

Claim Objections

7. Claims 1 (line 3), 4 (line 2), 6 (line 3), 9 (line 2), 10 (line 4 of page 17, line 3 of page 18), 12 (lines 3 and 4) and 18 (line 2) are objected to because of the following informalities: misspelling of the word “color” as “colour”. Applicant is reminded for checking for such informalities in the remaining claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. **Claims 1-9** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 1 recites the limitation "the shortest distance" in line 6. There is insufficient antecedent basis for this limitation in the claim. Further clarification is required. This also affects the dependent claims 2-9.

11. Claim 1 recites the limitation of “a gray axis defined as a straight line connecting a white point with a black point”. Such a limitation has not been *explicitly* depicted with *sufficient* descriptions in the instant claim. The scope of such a limitation is unable to be clearly determined, further clarification is required. This also affects the dependent claims 2-9.

12. Claim 3 recites the limitation "the analyzing step" in line 1. It is unclear that which step is the phrase “the analyzing step” referring to since there are at least 2 stated “analyzing steps” in claim 1. Further clarification is required. This also affects the dependent claims 4 and 5.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 1-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bares (U.S. Pub. No 2002/0075491) and further in view of Smilansky (U.S. Pub. No. 2002/0102013).

With regard to claims 1-9, the claims are drawn to an image processing method. Bares discloses an invention relates to classifying an image as a color or neutral (monochrome or black/white) image by observing the respective values associated with the pixels in the image. First, Bares discloses a limitation of usage of “neutral axis” (or L^* axis) in the disclosure (*i.e. as illustrated in Figure 1, Part 22*). Bares further discloses the limitations of process of “Determine Distances” (*i.e. Figure 2, Step 84 & Paragraph [0032]*), process of “Determine Count” and compare the value the to the predetermined threshold range (*i.e. Figure 2, Step 86 & Paragraph [0033]*), and the process of “Classify” (*i.e. Figure 2, Step 90 & Paragraph [0034]*) for classifying the image data to be either color or neutral (monochrome). In addition, Bares also disclose the limitation of transforming the image data in one color space to another, such as from RGB color space to a $L^*a^*b^*$ color space (*i.e. Figure 2, Step 70*).

Bares does not *explicitly* disclose the limitations of applying a linear regression analysis to the pixels as recited in claims 3 and 4, further utilize at least one of the regression parameters as recited in claim 5, and further perform judgment based on whether a existence of linear relationship produced by the image data as recited claims 8 and 9.

However, Smilansky discloses an invention relates to a method and system of comparing first and second signal arrays (signal arrays disclosed to be possibly the pixels in the digital image, i.e. Paragraph [0004]) utilizing a linear regression analysis and produce a slope (*i.e. Figures 1 & 4, Paragraph [0006], claim 1 and etc.*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Bares to include the limitations of applying a linear regression analysis to the pixels, further utilize at least one of the regression parameters, and further perform judgment based on whether a existence of linear relationship produced by the image data taught by Smilansky. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Bares by the teachings of Smilansky to include the limitations of applying a linear regression analysis to the pixels, further utilize at least one of the regression parameters, and further perform judgment based on whether a existence of linear relationship produced by the image data taught by Smilansky in the location mentioned above, in order to obtain a statistical result with better accuracy.

With regard to claims 10-18, the claims are drawn to an image processing system having the *substantially* identical limitations recited in claims 1-9 discussed above. In details, claims 10-18 are drawn to an image processing system having the *substantially* identical limitations recited in claims 1, 3, 6, 2, 4, 5, 7, 8 and 9 *respectively*. (*The system claims are rejected under the same ground for at least the reasons set forth above in the method claims. See the detailed discussion of the claims 1-10 above*).

With regard to claim 19, the claim is drawn to the system as recited in claim 10, further comprising a scanner for scanning the original image. Bares discloses the limitation of inputting image data, such as by scanning the original to obtain the digitized data (*i.e. Figure 2, Step 56; Paragraph [0027]*).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A. Handley et al. (U.S. Patent No. 7,116,443) disclose a method of neutral pixel (black/white pixel) detection using color space feature vectors.
- B. Shishizuka et al. (U.S. Patent No. 5,786,906) disclose a method and apparatus capable of automatically judging whether an input image is a color or monochrome image.
- C. Bares et al. (U.S. Patent No. 6,972,866) disclose a method of classifying a neutral or non-neutral category of the inputted pixel groups.
- D. Van Hall et al. (U.S. Pub. No. 2004/0042664) disclose a method and computer program product for recognizing italicized text, specifically disclose the limitation of subjecting the pixel in the histogram for a linear regression analysis.
- E. Nakamura et al. (U.S. Pub. No. 2001/0051001) disclose a picture-processing method and apparatus, and specifically disclose the limitation of "gray axis".
- F. Takaragi et al. (U.S. Patent No. 5,721,628) disclose a color image processing apparatus which judges a saturation of an input color image and perform image processing in accordance with the saturation judgment results.

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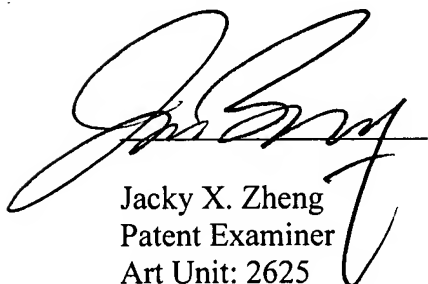
- G. Kanno et al. (U.S. Patent No. 6,504,628) disclose a color image-forming apparatus capable of discriminating the color of the original images.
- H. Fan et al. (U.S. Patent No. 6,24,592) disclose a method of neutral color detection for use in copiers and scanners.
- I. Funada et al. (U.S. Patent No. 5,722,440) disclose an image processing apparatus includes a judgment circuit for judging whether an input image is a monochrome or a color image.
- J. Kawano et al. (U.S. Patent no. 6,240,203) disclose an image discriminating apparatus for discriminating the type of image accurately.
- K. Gindele et al. (U.S. Pub. No. 2003/0215133) disclose an invention relates to color transformation for processing digital images, specifically disclose the usages of "linear regression analysis".
- L. Zhou (U.S. Patent No. 6,898,316) discloses a multiple image area detection method in a digital image.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacky X. Zheng whose telephone number is (571) 270-1122. The examiner can *normally* be reached on Monday-Friday, 7:30 a.m.-5p.m., Alt. Friday Off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler M. Lamb can be reached on (571) 272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jacky X. Zheng
Patent Examiner
Art Unit: 2625
June 27, 2007



TWYLER LAMB
SUPERVISORY PATENT EXAMINER